

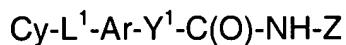
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IN THE CLAIMS

Amend the claims as follows:

Claims 1-219. (Canceled)

220. (New) An inhibitor of histone deacetylase represented by the formula



wherein

Cy is cycloalkyl, aryl, heteroaryl, or heterocyclyl, any of which may be optionally substituted;

L^1 is $-(\text{CH}_2)_m-\text{W}-$, where m is 0, 1, 2, 3, or 4, and W is selected from the group consisting of $-\text{C}(\text{O})\text{NH}-$, $-\text{S}(\text{O})_2\text{NH}-$, $-\text{NHS}(\text{O})_2-$, and $-\text{NH}-\text{C}(\text{O})-\text{NH}-$;

Ar is arylene, wherein said arylene optionally may be additionally substituted and optionally may be fused to an aryl or heteroaryl ring, or to a saturated or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted;

Y^1 is a chemical bond or a straight- or branched-chain saturated alkylene, wherein said alkylene may be optionally substituted; and

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Z is selected from the group consisting of anilinyl, pyridyl, thiadiazolyl, and -O-M,
M being H or a pharmaceutically acceptable cation;

provided that when L¹ is -C(O)NH-, Y¹ is an alkylene of formula -(CH₂)_n-, n being 1, 2 or 3, and Z is -O-M, then Cy is not aminophenyl, dimethylaminophenyl, or hydroxyphenyl; and further provided that when L¹ is -C(O)NH- and Z is pyridyl, then Cy is not substituted indolinyl.

221. (New) The inhibitor of claim 220, wherein Z is selected from the group consisting of 2-anilinyl, 2-pyridyl, 1,3,4-thiadiazol-2-yl, and -O-M, M being H or a pharmaceutically acceptable cation.

222. (New) The inhibitor of claim 221, wherein Z is 1,3,4-thiadiazol-2-yl which is substituted at the 5-position with a substituent selected from the group consisting of thiol, trifluoromethyl, amino, and sulfonamido.

223. (New) The inhibitor of claim 220, wherein Y¹ is C₁-C₆ alkylene.

224. (New) The inhibitor of claim 220, wherein Y¹ is C₁-C₃ alkylene.

225. (New) The inhibitor of claim 220, wherein Ar is substituted or unsubstituted phenylene, which optionally may be fused to an aryl or heteroaryl ring, or to a saturated

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or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted.

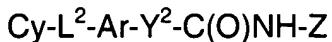
226. (New) The inhibitor of claim 225, wherein the phenylene is 4-phenylene.

227. (New) The inhibitor of claim 220, wherein Cy is selected from the group consisting of phenyl, naphthyl, thienyl, benzothienyl, and quinolyl, any of which may be optionally substituted.

228. (New) The inhibitor of claim 227, herein the phenyl, naphthyl, thienyl, benzothienyl, or quinolyl is unsubstituted or is substituted by one or two substituents independently selected from the group consisting of C₁-C₄ alkyl, C₁-C₄ haloalkyl, C₆-C₁₀ aryl, (C₆-C₁₀)ar(C₁-C₆)alkyl, halo, nitro, hydroxy, C₁-C₆ alkoxy, C₁-C₆ alkoxycarbonyl, carboxy, and amino.

229. (New) The inhibitor of claim 220, wherein m is zero.

230. (New) An inhibitor of histone deacetylase represented by the formula



wherein

Cy is cycloalkyl, aryl, heteroaryl, or heterocyclyl, any of which may be optionally substituted, provided that Cy is not a (spirocycloalkyl)heterocyclyl;

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L^2 is C_1 - C_6 saturated alkylene or C_2 - C_6 alkenylene, wherein the alkylene or alkenylene optionally may be substituted, provided that L^2 is not $-C(O)-$, and wherein one of the carbon atoms of the alkylene optionally may be replaced by a heteroatom moiety selected from the group consisting of O; NR', R' being alkyl, acyl, or hydrogen; S; S(O); or S(O)₂;

Ar is arylene, wherein said arylene optionally may be additionally substituted and optionally may be fused to an aryl or heteroaryl ring, or to a saturated or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted; and

Y^2 is a chemical bond or a straight- or branched-chain saturated alkylene, which may be optionally substituted, provided that the alkylene is not substituted with a substituent of the formula $-C(O)R$ wherein R comprises an α -amino acyl moiety; and

Z is selected from the group consisting of anilinyl, pyridyl, thiadiazolyl, and $-O-M$, M being H or a pharmaceutically acceptable cation;

provided that when the carbon atom to which Cy is attached is oxo substituted, then Cy and Z are not both pyridyl.

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231. (New) The inhibitor of claim 230, wherein Z is selected from the group consisting of 2-nilinyl, 2-pyridyl, 1,3,4-thiadiazol-2-yl, and -O-M, M being H or a pharmaceutically acceptable cation.

232. (New) The inhibitor of claim 231, wherein Z is 1,3,4-thiadiazol-2-yl which is substituted at the 5-position with a substituent selected from the group consisting of thiol, trifluoromethyl, amino, and sulfonamido.

233. (New) The inhibitor of claim 230, wherein Y² is a chemical bond.

234. (New) The inhibitor of claim 230, wherein Y² is C₁-C₃ alkylene.

235. (New) The inhibitor of claim 230, wherein Y² is C₁-C₂ alkylene.

236. (New) The inhibitor of claim 230, wherein Ar is substituted or unsubstituted phenylene, which optionally may be fused to an aryl or heteroaryl ring, or to a saturated or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted.

237. (New) The inhibitor of claim 236, wherein the phenylene is 4-phenylene.

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238. (New) The inhibitor of claim 230, wherein Cy is selected from the group consisting of phenyl, naphthyl, thienyl, benzothienyl, and quinolyl, any of which may be optionally substituted.

239. (New) The inhibitor of claim 238, wherein the phenyl, naphthyl, thienyl, benzothienyl, or quinolyl is unsubstituted or is substituted by one or two substituents independently selected from the group consisting of C₁-C₄ alkyl, C₁-C₄ haloalkyl, C₆-C₁₀ aryl, (C₆-C₁₀)ar(C₁-C₆)alkyl, halo, nitro, hydroxy, C₁-C₆ alkoxy, C₁-C₆ alkoxycarbonyl, carboxy, and amino.

240. (New) The inhibitor of claim 230, wherein one or two saturated carbons in L² are substituted with a substituent independently selected from the group consisting of C₁-C₆ alkyl, C₆-C₁₀ aryl, amino, oxo, hydroxy, C₁-C₄ alkoxy, and C₆-C₁₀ aryloxy.

241. (New) The inhibitor of claim 240, wherein the substituent is oxo or hydroxy.

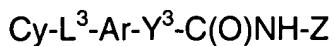
242. (New) The inhibitor of claim 230, wherein L² is C₁-C₆ saturated alkylene, and no carbon atom of the alkylene is replaced by a heteroatom moiety.

243. (New) The inhibitor of claim 230, wherein one carbon atom of the Y² alkylene is replaced by a heteroatom moiety selected from the group consisting of O; NR', R' being alkyl, acyl, or hydrogen; S; S(O); or S(O)₂.

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244. (New) The inhibitor of claim 243, wherein L² is selected from the group consisting of -S-(CH₂)_n, -S(O)-(CH₂)_n-, and -S(O)₂-(CH₂)_n-, wherein n is 0, 1, 2, 3, or 4.

245. (New) An inhibitor of histone deacetylase represented by the formula



wherein

Cy is cycloalkyl, aryl, heteroaryl, or heterocyclyl, any of which may be optionally substituted, provided that Cy is not a (spirocycloalkyl)heterocyclyl;

L³ is selected from the group consisting of

(a) -(CH₂)_m-W-, where m is 0, 1, 2, 3, or 4, and W is selected from the group consisting of -C(O)NH-, -S(O)₂NH-, -NHC(O)-, -NHS(O)₂-, and -NH-C(O)-NH-; and

(b) C₁-C₆ alkylene or C₂-C₆ alkenylene, wherein the alkylene or alkenylene optionally may be substituted, provided that L³ is not -C(O)-, and wherein one of the carbon atoms of the alkylene optionally may be replaced by O; NR', R' being alkyl, acyl, or hydrogen; S; S(O); or S(O)₂;

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Ar is arylene, wherein said arylene optionally may be additionally substituted and optionally may be fused to an aryl or heteroaryl ring, or to a saturated or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted; and

Y^3 is C_2 alkenylene or C_2 alkynylene, wherein one or both carbon atoms of the alkenylene optionally may be substituted with alkyl, aryl, alkaryl, or aralkyl; and

Z is selected from the group consisting of anilinyl, pyridyl, thiadiazolyl, and -O-M, M being H or a pharmaceutically acceptable cation;

provided that when Cy is unsubstituted phenyl, Ar is not phenyl wherein L^3 and Y^3 are oriented ortho or meta to each other.

246. (New) The inhibitor of claim 245, wherein Z is selected from the group consisting of 2-anilinyl, 2-pyridyl, 1,3,4-thiadiazol-2-yl, and -O-M, M being H or a pharmaceutically acceptable cation.

247. (New) The inhibitor of claim 246, wherein Z is 1,3,4-thiadiazol-2-yl which is substituted at the 5-position with a substituent selected from the group consisting of thiol, trifluoromethyl, amino, and sulfonamido.

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248. (New) The inhibitor of claim 245, wherein Y³ is selected from the group consisting of -CH=CH-, -C(CH₃)=CH-, and -CH=C(CH₃)-.

249. (New) The inhibitor of claim 245, wherein Ar is substituted or unsubstituted phenylene, which optionally may be fused to an aryl or heteroaryl ring, or to a saturated or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted.

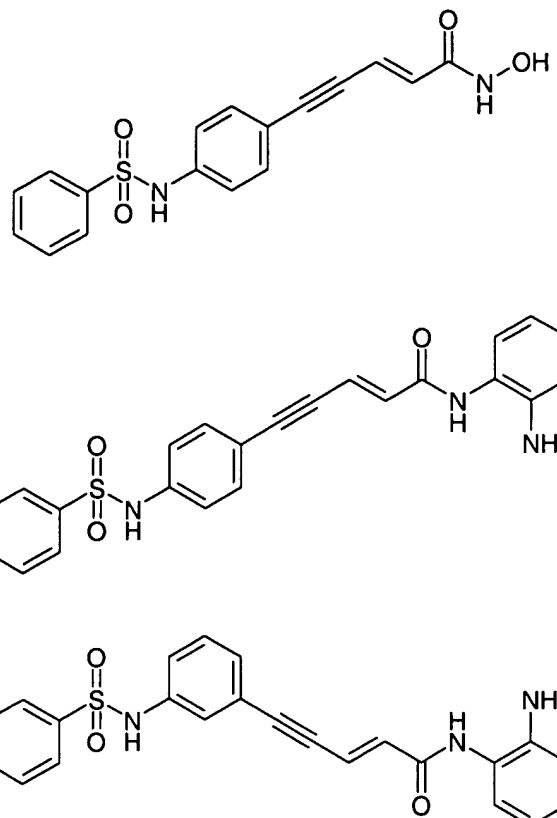
250. (New) The inhibitor of claim 249, wherein the phenylene is 4-phenylene.

251. (New) The inhibitor of claim 245, wherein Cy is selected from the group consisting of phenyl, naphthyl, thienyl, benzothienyl, and quinolyl, any of which may be optionally substituted.

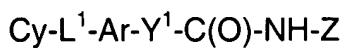
252. (New) The inhibitor of claim 251, wherein the phenyl, naphthyl, thienyl, benzothienyl, or quinolyl is unsubstituted or is substituted by one or two substituents independently selected from the group consisting of C₁-C₄ alkyl, C₁-C₄ haloalkyl, C₆-C₁₀ aryl, (C₆-C₁₀)ar(C₁-C₆)alkyl, halo, nitro, hydroxy, C₁-C₆ alkoxy, C₁-C₆ alkoxycarbonyl, carboxy, and amino.

253. (New) An inhibitor of histone deacetylase selected from the group consisting of

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254. (New) An inhibitor of histone deacetylase represented by the formula



wherein

Cy is aryl or heteroaryl, any of which may be optionally substituted;

L^1 is $-(CH_2)_m-W-$, where m is 0, 1, 2, 3, or 4, and W is selected from the group consisting of $-S(O)_2NH-$ and $-NHS(O)_2-$

Ar is arylene, wherein said arylene optionally may be additionally substituted and optionally may be fused to an aryl or heteroaryl ring, or to a saturated or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted;

Y¹ is a chemical bond or a straight- or branched-chain saturated alkylene, wherein said alkylene may be optionally substituted; and

Z is -O-M, M being H or a pharmaceutically acceptable cation.

255. (New) The inhibitor of claim 254, wherein Y¹ is C₁-C₇ alkylene.

256. (New) The inhibitor of claim 254, wherein Y¹ is -CH₂-, -CH(CH₃)-, -CH₂CH₂-, -CH=CH-, -C≡C-, -CH(CH₂CH₃)-, -CH(CH₃)CH₂-, -CH₂CH(CH₃)-, -CH=C(CH₃)-, -C(CH₃)=CH₂-, -CH₂CH₂CH₂-, -CH=CHCH₂-, -CH₂CH=CH-, -C≡CCH₂-, or -CH₂C≡C-.

257. (New) The inhibitor of claim 254, wherein Ar is substituted or unsubstituted phenylene, which optionally may be fused to an aryl or heteroaryl ring, or to a saturated or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted.

258. (New) The inhibitor of claim 257, wherein the phenylene is 4-phenylene.

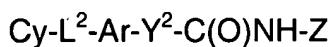
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259. (New) The inhibitor of claim 254, wherein Cy is selected from the group consisting of phenyl, naphthyl, benzothienyl, and quinolyl, any of which may be optionally substituted.

260. (New) The inhibitor of claim 259, herein the phenyl, naphthyl, thienyl, benzothienyl, or quinolyl is unsubstituted or is substituted by one or two substituents independently selected from the group consisting of C₁-C₇ alkyl, C₁-C₇ haloalkyl, C₅-C₂₀ aryl, (C₅-C₂₀)ar(C₁-C₇)alkyl, halo, nitro, hydroxy, C₁-C₇ alkoxy, C₁-C₇ alkoxycarbonyl, carboxy, and amino.

261. (New) The inhibitor of claim 254, wherein m is zero.

262. (New) An inhibitor of histone deacetylase represented by the formula



wherein

Cy is aryl or heteroaryl, any of which may be optionally substituted, provided that Cy is not a (spirocycloalkyl)heterocyclyl;

L² is C₁-C₇ saturated alkylene or C₂-C₇ alkenylene, wherein the alkylene or alkenylene optionally may be substituted, provided that L² is not -C(O)-;

Ar is arylene, wherein said arylene optionally may be additionally substituted and optionally may be fused to an aryl or heteroaryl ring, or to a saturated or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted; and

Y^2 is a chemical bond or a straight- or branched-chain saturated alkylene, which may be optionally substituted, provided that the alkylene is not substituted with a substituent of the formula $-C(O)R$ wherein R comprises an α -amino acyl moiety; and

Z is $-O-M$, M being H or a pharmaceutically acceptable cation;

provided that when the carbon atom to which Cy is attached is oxo substituted, then Cy and Z are not both pyridyl.

263. (New) The inhibitor of claim 262, wherein Y^2 is a chemical bond.

264. (New) The inhibitor of claim 262, wherein Y^2 is C_1-C_3 - CH_2- , $-CH(CH_3)-$, $-CH_2CH_2-$, $-CH=CH-$, $-C\equiv C-$, $-CH(CH_2CH_3)-$, $-CH(CH_3)CH_2-$, $-CH_2CH(CH_3)-$, $-CH=C(CH_3)-$, $-C(CH_3)=CH_2-$, $-CH_2CH_2CH_2-$, $-CH=CHCH_2-$, $-CH_2CH=CH-$, $-C\equiv CCH_2-$, or $-CH_2C\equiv C-$.

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265. (New) The inhibitor of claim 262, wherein Y² is -CH₂-, -CH(CH₃)-, -CH₂CH₂-, -CH=CH-, or -C≡C-.

266. (New) The inhibitor of claim 262, wherein Ar is substituted or unsubstituted phenylene, which optionally may be fused to an aryl or heteroaryl ring, or to a saturated or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted.

267. (New) The inhibitor of claim 266, wherein the phenylene is 4-phenylene.

268. (New) The inhibitor of claim 262, wherein Cy is selected from the group consisting of phenyl, naphthyl, benzothienyl, and quinolyl, any of which may be optionally substituted.

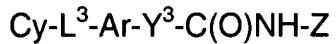
269. (New) The inhibitor of claim 268, wherein the phenyl, naphthyl, benzothienyl, or quinolyl is unsubstituted or is substituted by one or two substituents independently selected from the group consisting of C₁-C₇ alkyl, C₁-C₇ haloalkyl, C₅-C₂₀ aryl, (C₅-C₂₀)ar(C₁-C₇)alkyl, halo, nitro, hydroxy, C₁-C₇ alkoxy, C₁-C₇ alkoxycarbonyl, carboxy, and amino.

270. (New) The inhibitor of claim 262, wherein one or more carbons in L² are substituted with a substituent independently selected from the group consisting of C₁-C₇ alkyl, C₅-C₂₀ aryl, amino, oxo, hydroxy, C₁-C₇ alkoxy, and C₅-C₂₀ aryloxy.

271. (New) The inhibitor of claim 270, wherein the substituent is oxo or hydroxy.

272. (New) The inhibitor of claim 264, wherein L² is C₁-C₇ saturated alkylene, and no carbon atom of the alkylene is replaced by a heteroatom moiety.

273. (New) An inhibitor of histone deacetylase represented by the formula



wherein

Cy is aryl or heteroaryl, any of which may be optionally substituted, provided that Cy is not a (spirocycloalkyl)heterocyclyl;

L³ is selected from the group consisting of

(a) -(CH₂)_m-W-, where m is 0, 1, 2, 3, or 4, and W is selected from the group consisting of -S(O)₂NH- and -NHS(O)₂-; and

(b) C₁-C₇ alkylene or C₂-C₇ alkenylene, wherein the alkylene or alkenylene optionally may be substituted, provided that L³ is not -C(O)-;

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Ar is arylene, wherein said arylene optionally may be additionally substituted and optionally may be fused to an aryl or heteroaryl ring, or to a saturated or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted; and

Y^3 is $-\text{CH}=\text{CH}-$ or $-\text{C}\equiv\text{C}-$, wherein one or both carbon atoms of $-\text{CH}=\text{CH}-$ optionally may be substituted with $\text{C}_{1-7}\text{alkyl}$, $\text{C}_{5-20}\text{aryl}$, $\text{C}_{1-7}\text{alkyl-C}_{5-20}\text{aryl}$, or $\text{C}_{5-20}\text{aryl-C}_{1-7}\text{alkyl}$; and

Z is $-\text{O}-\text{M}$, M being H or a pharmaceutically acceptable cation;

provided that when Cy is unsubstituted phenyl, Ar is not phenyl wherein L^3 and Y^3 are oriented ortho or meta to each other.

274. (New) The inhibitor of claim 273, wherein Y^3 is selected from the group consisting of $-\text{CH}=\text{CH}-$, $-\text{C}(\text{CH}_3)=\text{CH}-$, and $-\text{CH}=\text{C}(\text{CH}_3)-$.

275. (New) The inhibitor of claim 273, wherein Ar is substituted or unsubstituted phenylene, which optionally may be fused to an aryl or heteroaryl ring, or to a saturated or partially unsaturated cycloalkyl or heterocyclic ring, any of which may be optionally substituted.

276. (New) The inhibitor of claim 275, wherein the phenylene is 4-phenylene.

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277. (New) The inhibitor of claim 273, wherein Cy is selected from the group consisting of phenyl, naphthyl, benzothienyl, and quinolyl, any of which may be optionally substituted.

278. (New) The inhibitor of claim 277, wherein the phenyl, naphthyl, benzothienyl, or quinolyl is unsubstituted or is substituted by one or two substituents independently selected from the group consisting of C₁-C₇ alkyl, C₁-C₇ haloalkyl, C₅-C₂₀ aryl, (C₅-C₂₀)ar(C₁-C₇)alkyl, halo, nitro, hydroxy, C₁-C₇ alkoxy, C₁-C₇ alcoxycarbonyl, carboxy, and amino.